

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A semiconductor device, comprising:
  - a semiconductor substrate having a main surface;
  - an element isolating region for defining an element forming region on the main surface of said semiconductor substrate;
  - an isolation region ~~provided in~~ having a strip-shape in cross section and having a peak impurity concentration at a prescribed depth position from the main surface of said semiconductor substrate;
  - a connection hole provided piercing through said element isolating region;
  - an anti-HF (hydrofluoric acid) side wall film not etched by hydrofluoric acid, provided to cover a side wall of said connection hole at least near a lower end of said connection hole;
  - an interconnection layer provided to fill an inner portion of said connection hole;
  - and
  - an impurity region provided in said semiconductor substrate extending from the lower end of said connection hole to said isolation region, wherein said impurity region comprises a first impurity region portion provided to connect said interconnection layer to said isolation region, and a second impurity region portion provided near the lower end of said connection hole and connected to said interconnection layer, the cross-sectional width of the first impurity region portion being smaller than the cross-sectional width of the second impurity region portion.

2. (Original) The semiconductor device according to claim 1, wherein said anti-HF side wall film is a nitride film.

Claim 3: cancelled.

4. (Original) The semiconductor device according to claim 1, wherein said anti-HF side wall film is either a polysilicon film or an amorphous silicon film.

Claims 5 through 7: cancelled.

8. (Newly presented) The semiconductor device according to claim 1, wherein the width of the first impurity region is approximately equal to the internal diameter of the connection hole.